

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1- 7. (Canceled)

8. (Currently amended) A thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid, the thermoelectric generator comprising:

a plurality of thermoelectric modules, wherein:

each of the thermoelectric modules comprises a first side and a second side; and

each of the thermoelectric modules generates electricity when there is a difference in temperature between the first side and the second side;

a first thermal module, wherein:

the first thermal module comprises a first block including a first passage through which first passage the first fluid flows through the block; and

the first thermal module is configured to exchange heat with the first sides of at least two of the plurality of thermoelectric modules; and

a plurality of second thermal modules, wherein:

each of the plurality of second thermal modules comprises a respective second block including a respective second passage through which second passage the second fluid flows through the respective second block; and

a side of each of the second thermal modules is configured to exchange heat with exactly one of the thermoelectric modules through the second side of the respective thermoelectric module; and

each of the second thermal modules accommodates all axis
mechanical variance in its respective thermoelectric module.

9. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 8, wherein the thermoelectric generator further comprises:

a compression mechanism, wherein the compression mechanism is operably coupled with two of the plurality of second thermal modules such that the first thermal module and at least one of the plurality of thermoelectric modules is compressed between two of the plurality of second thermal modules.

10. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 9, wherein:

the compression mechanism comprises a rod and a spring.

11. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 9, wherein:

the compression mechanism is configured to compress with an actively variable force.

12. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 9, wherein:

the compression mechanism is configured to compensate for thermal expansion and thermal contraction of at least one of the plurality of second thermal modules.

13. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 9, wherein:

the compression mechanism is configured to compensate for stack tolerance build-up of the plurality of second thermal modules.

14. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 8, wherein;

at least one of the plurality of second thermal modules is compliantly coupled with at least one other of the plurality of second thermal modules.

15. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 14, wherein at least one of the plurality of second thermal modules being compliantly coupled with at least one other of the plurality of second thermal modules comprises:

at least one of the plurality of second thermal modules compliantly coupled with at least one other of the second thermal modules, allowing all axis expansion, contraction and natural mechanical variance in elements of a stack comprising at least one of the plurality of thermoelectric modules.

16. (Previously presented) The thermoelectric generator for generating electricity from the temperature differential between the first fluid and the second fluid of claim 14, wherein at least one of the plurality of second thermal modules being compliantly coupled with at least one other of the plurality of second thermal modules comprises:

at least one of the plurality of second thermal modules being coupled via an o-ring slip joint with at least one other of the plurality of second thermal modules.

17. (Withdrawn) A thermoelectric generator for generating electricity from a temperature differential between a plurality of thermal modules, the thermoelectric generator comprising:

- a first thermal module;
- a second thermal module;
- a first thermoelectric module disposed between the first thermal module and the second thermal module;
- a third thermal module; and
- a second thermoelectric module disposed between the second thermal module and the third thermal module, wherein the first thermal module is flexibly coupled with the third thermal module.

18. (Withdrawn) The thermoelectric generator for generating electricity from the temperature differential between the plurality of thermal modules of claim 17, wherein the first thermal module comprises:

- a first sub-module flexibly coupled with a second sub-module.

19. (Withdrawn) The thermoelectric generator for generating electricity from the temperature differential between the plurality of thermal modules of claim 17, wherein the second thermal module comprises:

- a first sub-module flexibly coupled with a second sub-module.

20. (Withdrawn) The thermoelectric generator for generating electricity from the temperature differential between the plurality of thermal modules of claim 17, wherein the first thermal module being flexibly coupled with the third thermal module comprises:

- a compression mechanism operably coupled with the first thermal module and the third thermal module.

21. (Withdrawn) The thermoelectric generator for generating electricity from the temperature differential between the plurality of thermal modules of claim 20, wherein:

the compression mechanism is configured to compensate for thermal expansion and thermal contraction of at least the second thermal module.

22. (Withdrawn) The thermoelectric generator for generating electricity from the temperature differential between the plurality of thermal modules of claim 17, wherein the first thermal module and the third thermal module are flexibly and fluidically coupled.

23. (Canceled)

24. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein the first fluid is at a higher temperature than the second fluid.

25. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein the first fluid and the second fluid are received from external storage reservoirs.

26. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein the first fluid and the second fluid circulate to and from external storage reservoirs.

27. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, further comprising a common inlet through which the second fluid is received for distribution to all of the second thermal modules.

28. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein both fluids are liquids.

29. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 28, wherein both liquids comprise water.

30. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein the first thermal module is rectangular.

31. (Previously presented) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein each of the second thermal modules is rectangular.

32. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 8, wherein at least two of the plurality of second thermal modules reside on one side of the first thermal module, both of their respective thermoelectric modules being in contact with one planar face of the first thermal module.

33. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 32, wherein the two second thermal modules that are on one side of the first thermal module are flexibly coupled to each other.

34. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 32, wherein the two second thermal modules that are on one side of the first thermal module are flexibly coupled to each other such that the second fluid flows through the respective second passages of both of the second thermal modules that are on one side of the first thermal module.

35. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 34, further comprising a compliant member that seals between the two respective second passages.

36. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 32, further comprising a compliant member between the two second thermal modules that are on one side of the first thermal module, and a mechanism that connects the two second thermal modules and applies pressure to the compliant member.

37. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 36, wherein the mechanism is a dogleg feature.

38. (New) The thermoelectric generator for generating electricity from a temperature differential between a first fluid and a second fluid as recited in claim 32, wherein at least two of the plurality of second thermal modules reside on a second side of the first thermal module, both of their respective thermoelectric modules being in contact with a second planar face of the first thermal module.